

WHAT IS CLAIMED IS:

- 1. A light-emitting material including diplophase compound that is expressed in the following general formula: (Sr, Eu, Dy)  $_{0.95\pm x}$  (Al, B)  $_{2}O_{3.95\pm x}$  (Sr, Eu, Dy)  $_{4-x}$  (Al, B)  $_{14}O_{25-x}$  (in the formula, x=0.01 to 0.1, a content of B element is 0.2 to 1.0 % by weight, a content of Eu is 0.5 to 3.0 % by weight and a content of Dy is 0.1 to 3.0 % by weight).
- 2. A light-emitting material according to claim 1, wherein said diplophase compound comprises symbiotical phase (Sr. Eu, Dy)  $_{0.95~\pm x}$  (Al, B)  $_{2}O_{3.95\pm}$  from (Sr. Eu, Dy)  $_{4-x}$  (Al, B)  $_{14}O_{25-x}$ .
- 3. A light-emitting material according to claim 1, wherein Al-O tetrahedron and Al-O octahedron concurrently exist in said diplophase compound.
- 4. A light-emitting material according to claim 1, wherein BO<sub>3</sub> triangular arrangement substitute a part of Al-O octahedron in said diplophase compound.
- 5. A light-emitting material according to claim 1, wherein boron exists entirely in said diplophase compound crystalline.
- 6. A producing method of a light-emitting material of claim 1, comprising
- (1) step for measuring previously pulverized raw materials, and mixing them to obtain a mixture of raw material,
- (2) step for putting the mixture into a container, heating the mixture from  $850^{\circ}$  to  $1200^{\circ}$  for three hours under a reduction condition, keeping the temperature for five to six hours, thereby obtaining a sintered body,
- (3) step for stopping the heating operation and cooling the sintered body nature down to a room temperature, and
- (4) step for pulverizing the sintered body to obtain a product.
- 7. A producing method of a light-emitting material according to claim 6, wherein said previously pulverized raw materials are SrCO<sub>3</sub>, Al<sub>2</sub>O<sub>3</sub>, H<sub>3</sub>BO<sub>3</sub>, Eu<sub>2</sub>O<sub>3</sub> and Dy<sub>2</sub>O<sub>3</sub>.
- 8. A producing method of a light-emitting material according to claim 6 , wherein in said step (2), reduction is carried out using carbon powder.